



Gatwick Airport Northern Runway Project

Environmental Statement

Appendix 5.4.2: Carbon Action Plan – Clean Version

Book 5

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Executive Summary

- A. Addressing the causes of climate change is one of the greatest challenges of our time. As one of the leading contributors to global emissions, decarbonising the aviation industry is key to overcoming that challenge. Gatwick Airport Ltd ("GAL") recognises the role that we must play in supporting the transition to a global low carbon future for the aviation industry, whilst also recognising and maintaining the critical role that aviation plays in boosting trade, tourism and travel. Sustainability is a key business priority and a core aspect of our operations.
- B. Operations at Gatwick Airport have been accredited as carbon neutral since 2017. We are working successfully to achieve the stretching sustainability targets set out in our Second Decade of Change to 2030 Strategy (Ref 1.2). This includes our aim¹ to achieve the highest level of Airport Carbon Accreditation (Ref 1.1).
- C. These actions are not dependent on the success of the Northern Runway Project's DCO Application, but we are taking the opportunity for the DCO Application to set out binding commitments in this, the **Carbon Action Plan** ("CAP").
- D. The CAP focusses on three key airport emission sources: airport buildings and ground operations ("ABAGO"), aviation and construction. Under each heading the CAP sets clear outcomes that GAL is committing to deliver. To achieve those outcomes, we will draw from a range of measures which reflect current best practice and technologies available, as well as facilitating emerging technologies as carbon reduction techniques continue to evolve.
- E. Our commitments on target surface access emissions are set out in **ES Appendix 5.4.1: Surface Access Commitments** (Doc Ref. 5.3).
- F. We have established the internal governance processes to deliver on our commitments.
- G. We will ensure that these committed outcomes are achieved by publishing annual monitoring reports. These reports will be independently verified and will report performance against the commitments, summarising the measures that GAL are implementing and identifying any new measures that can be implemented at the airport to ensure that progress is on track towards the commitments.

¹ Gatwick Airport achieved Level 4+ 'Transition' accreditation under the Airports Council International Airport Carbon Accreditation scheme.

- H. The **CAP** also sets out the process by which the commitments will be reviewed, and where necessary updated, in response to any changes to Government Aviation and/or Climate Change policy in future years.

Carbon Neutral – “offsetting all residual carbon emissions under Scope 1, Scope 2 and staff business travel”

Net Zero – “reduce absolute emissions to the greatest extent possible and address any remaining emissions through investment in carbon removal”

Absolute Zero – “no greenhouse gas emissions are attributable to an actor’s operations. Under this definition, no offsets or balancing of residual emissions with removals are used.”

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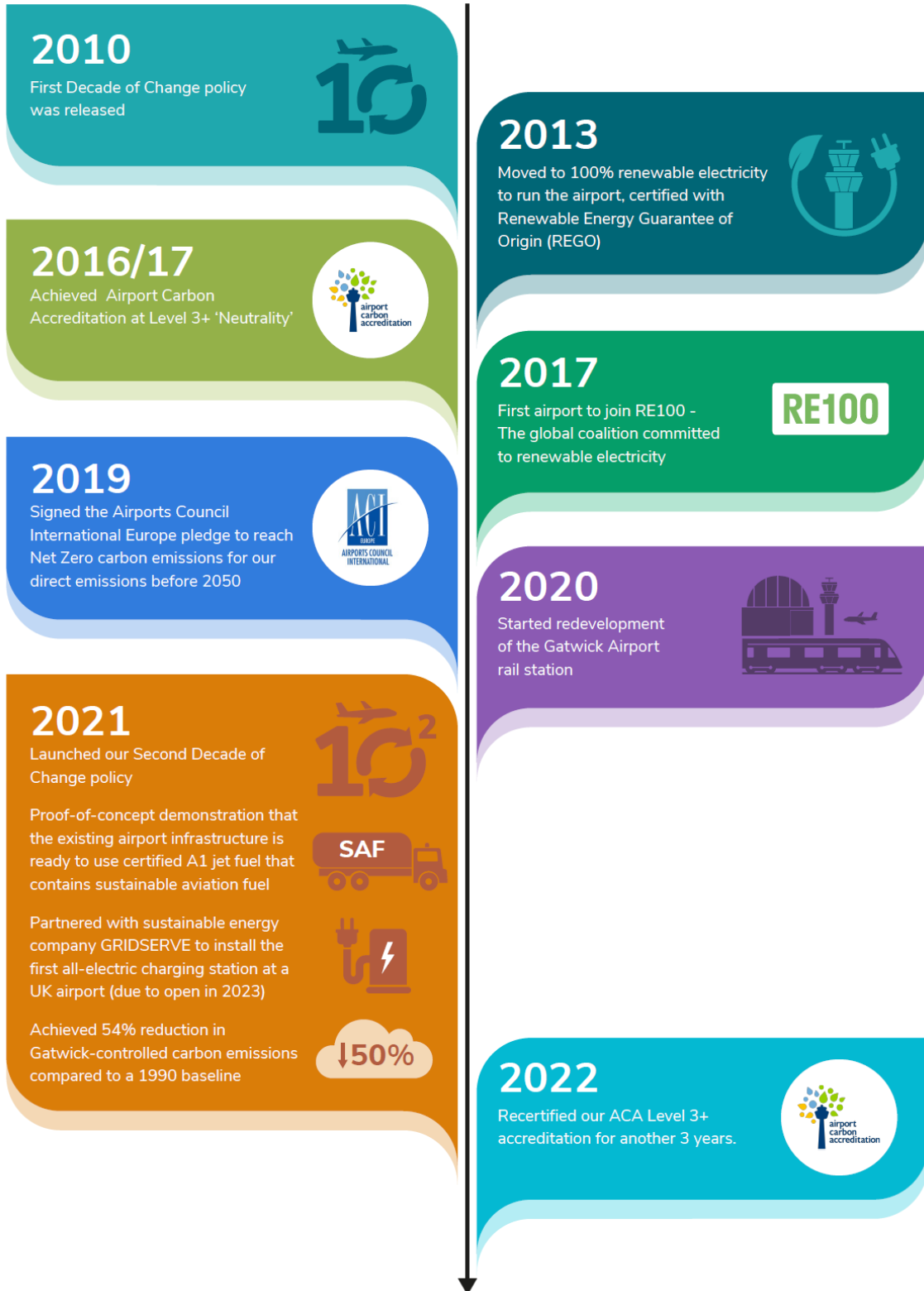
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1. Introduction

1.1 Background

- 1.1.1 GAL recognises the role that must be played by airports in supporting the transition to a global low carbon future for the aviation industry, whilst also maintaining the critical role that aviation plays in boosting international connectivity, trade, tourism and travel (Ref 1.3). In line with the UK Government's Jet Zero Strategy (Ref 1.3), we recognise that growth in aviation demand can be accommodated within the planned trajectory for the UK to meet its obligation to achieve Net Zero emissions by 2050 but only if all parties play their part in carbon reduction.
- 1.1.2 Sustainability has long been one of our key business priorities and a core aspect of our operations. The main steps in our journey to date are summarised in Gatwick Airport's sustainability roadmap (Error! Reference source not found.).

Figure 1-1 – Gatwick’s sustainability roadmap



- 1.1.3 In 2010, we set out our sustainability policy through the first Decade of Change (DoC) (Ref 1.4). A 10-year plan putting sustainability at the heart of everything Gatwick does through 10 clear goals.
- 1.1.4 In 2016/17, we achieved 'Level 3+ - Neutrality' status under the Airport Carbon Accreditation scheme, which is a global carbon management certification programme for airports (Ref 1.1). GAL has been working hard to reduce carbon emissions under GAL's control (from a 1990 baseline) and offset the remaining emissions using internationally recognised offset schemes.
- 1.1.5 We calculate and report Greenhouse Gas ("GHG") emissions on an annual basis as part of our annual DoC performance summaries, most recently for the calendar year 2022 (Ref 1.5). We have been carbon neutral since 2017. From the 2019 DoC performance summary (Ref 1.6), our direct emissions were 54.5% lower than the 1990 baseline.
- 1.1.6 In 2021, we published the Second DoC (Ref 1.2), building on what was achieved during the previous 10 years and establishing new sustainability targets to 2030. In 2019 we signed the Airports Council International Europe pledge (Ref 1.7) to reach Net Zero for direct emissions before 2050. In our Second Decade of Change (Ref 1.2), we've accelerated our goal of achieving Net Zero for our direct emissions to 2030.

1.2 Purpose of this Document

- 1.2.1 This CAP builds on our Second Decade of Change (Ref 1.2) and is aligned with UK Government's Jet Zero Strategy (Jet Zero) (Ref 1.3) and other UK aviation and transport policy. It sets out how we intend to build on what has been achieved to date by committing to key outcomes and outlining the actions that we will take in order to achieve such outcomes and in so doing, play our part in the global transition to a low carbon future for the aviation sector.
- 1.2.2 Our commitment to play our part in the UK's Jet Zero trajectory is not contingent on the Project being consented, but the CAP uses the legally binding nature of the DCO application to provide an additional level of assurance to stakeholders.

1.3 Carbon Action Plan

- 1.3.1 The CAP builds on the existing initiatives to reduce GHG emissions set out in the Second Decade of Change (Ref 1.2) by committing to specific climate mitigation outcomes at the Airport as part of the Project.
- 1.3.2 The CAP has been developed with the benefit of industry leading advice and identifies a range of potential measures which we will select from to achieve the stated committed outcomes. Given the fast-evolving technological and regulatory landscape and the long-term nature of the CAP, whilst the commitment to the outcomes is binding, the measures to achieve them are purposely not prescriptive to allow flexibility to select the most effective combination of them (or others) based on circumstances and knowledge that exist at the time.
- 1.3.3 The CAP can be seen as a response to the requirements of the Government's Jet Zero Strategy for airports to play their part in our low carbon future. We work closely with Government and we will update the CAP if updates are required to respond to any relevant requirements from Government, including updates to the Jet Zero Strategy and associated Aviation and Climate Change policy.

Focus Areas

- 1.3.4 The CAP provides the outcomes that Gatwick will commit to in three focus areas:
- **ABAGO:** The emissions arising from energy use for buildings, infrastructure and operations to provide heating, cooling, lighting and power needs; fuels for airside and landside vehicles; electricity transmission and distribution emissions; refrigerant losses; fuels for fire training; water consumption and treatment; and operational waste disposal and treatment.
 - **Aviation:** The emissions arising from aircraft at the airport, including the Landing and Take Off ("LTO") and Climb Cruise Descent ("CCD") phases of flight.
 - **Construction:** The emissions arising from the extraction, processing and manufacture of construction materials; transportation of these materials; the energy and water used during construction processes; transport and disposal of waste; and transport of construction workers.
- 1.3.5 In addition to the three areas covered in this CAP, the Airports National Policy Statement (Ref 1.8) (at paragraph 5.77) identifies surface access emissions as a fourth area of focus. Our commitments in relation to surface access emissions and their respective review, monitoring and governance processes are set out in **ES Appendix 5.4.1: Surface Access Commitments** (Doc Ref. 5.3). This CAP does not repeat those same commitments to avoid duplication, but refers to **ES Appendix 5.4.1: Surface Access Commitments** where relevant.

Policy Context

- 1.3.6 Addressing the causes of climate change is a global challenge. In 2015, The Paris Agreement (Ref 1.9) was signed by 196 countries, including the UK. It sets out a global framework to avoid dangerous and irreversible climate change. The Paris Agreement sets targets to achieve this by limiting global temperature rise to well below 2°C, and preferably no more than 1.5°C above pre-industrial levels (Ref 1.9).
- 1.3.7 The Intergovernmental Panel on Climate Change ("IPCC") published further reports in 2018 concluding that, to avoid the impacts of warming above 1.5°C, governments globally would need to cut global greenhouse gas emissions by 45% by 2030 and reach Net Zero by 2050 (Ref 1.23).
- 1.3.8 In the UK, legislated carbon targets were set in the Climate Change Act 2008 (Ref 1.10). These mandated the reduction of UK GHG emissions by 80% relative to 1990 levels by 2050 and set out a process of carbon budgeting to achieve this. This was amended in 2019 to increase the level of ambition to Net Zero by 2050 (Ref 1.24).
- 1.3.9 In April 2021, consistent with these commitments, the Government announced that the Sixth Carbon Budget (Ref 1.11) would deliver a reduction in carbon emissions of 78% by 2035 compared to 1990 levels, and that international aviation emissions would be incorporated into UK targets from 2033 (Ref 1.11).

1.3.10 In response to this, and reflecting the challenge faced by aviation, the Department for Transport ("DfT") published its Jet Zero Strategy (Ref 1.3), containing goals to achieve Net Zero UK aviation emissions by 2050. The Jet Zero Strategy proposes specific targets for domestic and international aviation emissions based on the introduction of measures. The achievement of these Net Zero UK aviation emission targets will be driven by the responsible airlines and UK Government. The Jet Zero Strategy explains that the Government will be setting an emissions reduction trajectory for the aviation sector and closely monitoring progress to ensure compliance.

1.3.11 As the Jet Zero Strategy (Ref 1.3) makes clear in its Executive Summary:

"We will monitor progress against our trajectory on an annual basis, followed by a major review of our Strategy every five years. We recognise that many of the technologies needed to decarbonise the sector are at an early stage of development and therefore, we have committed to reviewing our Strategy every five years and will use these reviews to take stock of how emerging technologies are developing, whether they are developing at the pace required and if they are being adopted by the sector. If we find that the sector is not meeting the emissions reductions trajectory, we will consider what further measures may be needed to ensure that the sector maximises in-sector reductions to meet the UK's overall 2050 net zero target."

1.3.12 As part of this approach, the Jet Zero Strategy (at paragraph 3.4) also sets an ambition "for all airport operations in England to be zero emission by 2040". "Airport operations" for these purposes are not defined, but the Government has issued a Call for Evidence (Ref 1.12) to formalise the definition and put in place the mechanisms for monitoring progress and ensuring delivery against the target. Government progress in this respect is likely to put in place provisions that may replicate or add to the approach set out in this CAP.

1.3.13 In 2021 the DfT also published its Transport Decarbonisation Plan (Ref 1.13), which sets out the UK Government's strategy to achieve Net Zero emissions from surface transport. The Transport Decarbonisation Plan (Ref 1.13) also includes standards and goals for vehicles sold. The "One Year On" (Ref 1.14) review summarises the progress made on delivering the Transport Decarbonisation Plan, including a Zero Emission Vehicle mandate from 2024 onwards, which sets the target to phase out all new non-zero emission road vehicles by 2040. The commitments in the SAC have been developed to ensure the future operation of the Project will be consistent with the decarbonisation principles set out in the Transport Decarbonisation Plan.

Level of GAL influence on emissions

1.3.14 The Greenhouse Gas (GHG) Protocol (Ref 1.15) categorises GHG emission sources into three "scopes". These scopes help to demonstrate the level of control that a reporting body has over the emissions source.

1.3.15 We are committed to minimising emissions under our control, in addition to guiding and influencing stakeholders and partners in reducing their emissions. The definitions of "control", "guide" and "influence", below, are in line with Airport Carbon Accreditation definitions (Ref 1.1) and the GHG Protocol.

- Control: Includes all sources under direct GAL control such as facilities, services, activities and equipment (Scope 1). This also includes indirect emissions from the generation of electricity and heat consumed by GAL (Scope 2).
- Guide: Includes sources that GAL has a direct impact on, including on-site assets, facilities, services, activities and equipment owned and operated by subcontractors and suppliers to whom GAL can provide guidance. (Scope 3).
- Influence: Includes sources GAL can influence but does not have control over such as airlines, customer behaviour and government agencies. (Scope 3).

Timescale of implementation

- 1.3.16 The CAP sets out a range of potential measures that will be drawn from in order to achieve the committed outcomes (Section 3), of which some are categorised as “short term”. These short term measures, where used, would be anticipated to be implemented before 2025 and act as a foundation for future “medium term” and “long term” measures. We would expect to implement these measures from 2025 onwards and delivered by 2030 and 2040 respectively.
- 1.3.17 This staggered approach to measures recognises that advanced technologies will inevitably emerge and be adopted to further improve carbon reductions and energy efficiency.

Short term – measures implemented and delivered by 2025

Medium term – measures implemented and delivered by 2030

Long term – measures implemented and delivered by 2040

- 1.3.18 Whilst there is greater certainty in the scope and implementation timescale of the short term measures, the detail of some of the measures will naturally evolve and develop over time, for example as technology improves. As a result, the timescales are presented for indicative reference only, and it is possible that their implementation may be phased differently where necessary following the monitoring of performance to ensure the committed outcomes are met.

Enabling and direct carbon reduction measures

- 1.3.19 The potential measures listed in the **CAP** in respect of the committed outcomes cover a range of implementation and policy types, such as infrastructure, changes in management, changes in standards and feasibility studies. These measures can be defined as enabling or direct:

- 1.3.20 Enabling: These measures implement changes to policies, behaviours and standards which indirectly lead to reduction of carbon emissions. This category includes measures that need to precede the rollout of direct measures, e.g. feasibility studies.

- 1.3.21 Direct: These measures lead to direct carbon reduction and are principally associated with changes to infrastructure. For some, it may be necessary to first establish the relevant enabling measure.

Interaction of Carbon Action Plan with Environmental Statement

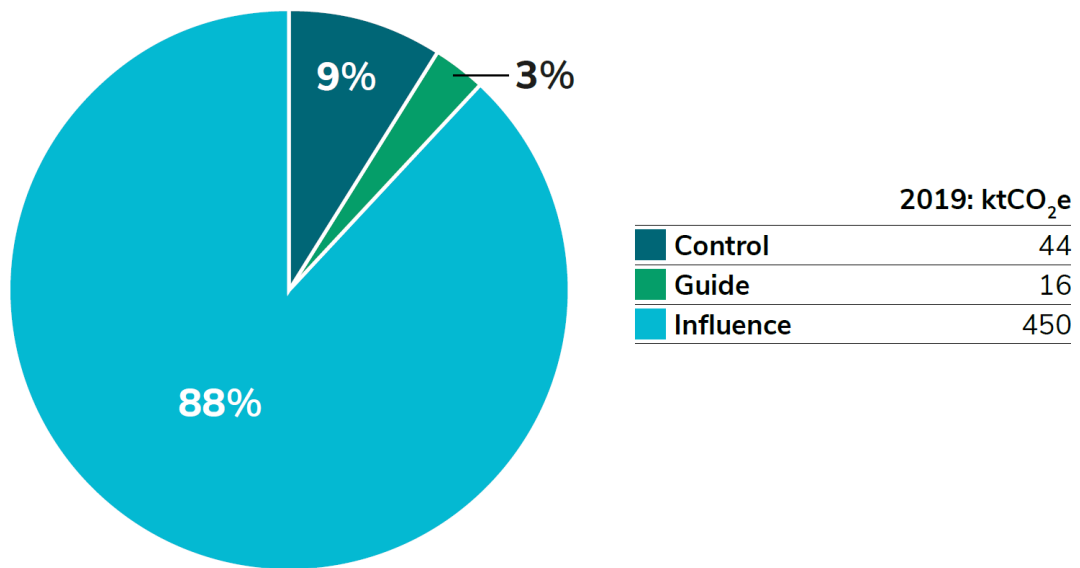
- 1.3.22 The commitments set out in the **CAP** inform the **ES Chapter 15: Greenhouse Gases** (Doc Ref. 5.1). The outcomes to which we commit are integral to the delivery of the Project and are incorporated within the assessment of the likely effects of the Project on GHG emissions. For information, the assessment also quantifies the benefit of the CAP and the GHG savings it secures compared with an unmitigated position.

2. Our carbon footprint

2.1.1 GAL's 2019 carbon footprint has been third-party verified using the *GHG Protocol Corporate Accounting and Reporting Standard* (Ref 1.15) developed by World Business Council for Sustainable Development ("WBCSD") and the World Resources Institute ("WRI"). This sets out a corporate accounting and reporting methodology for GHGs. Emissions have also been calculated in line with *ISO 14064-1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals* (Ref 1.16). The 2019 carbon footprint is based on 285,000 air traffic movements ("ATM"s) and 46.6 million passengers ("PAX") achieved in that year – the last full year of operations before the pandemic (Ref 1.6).

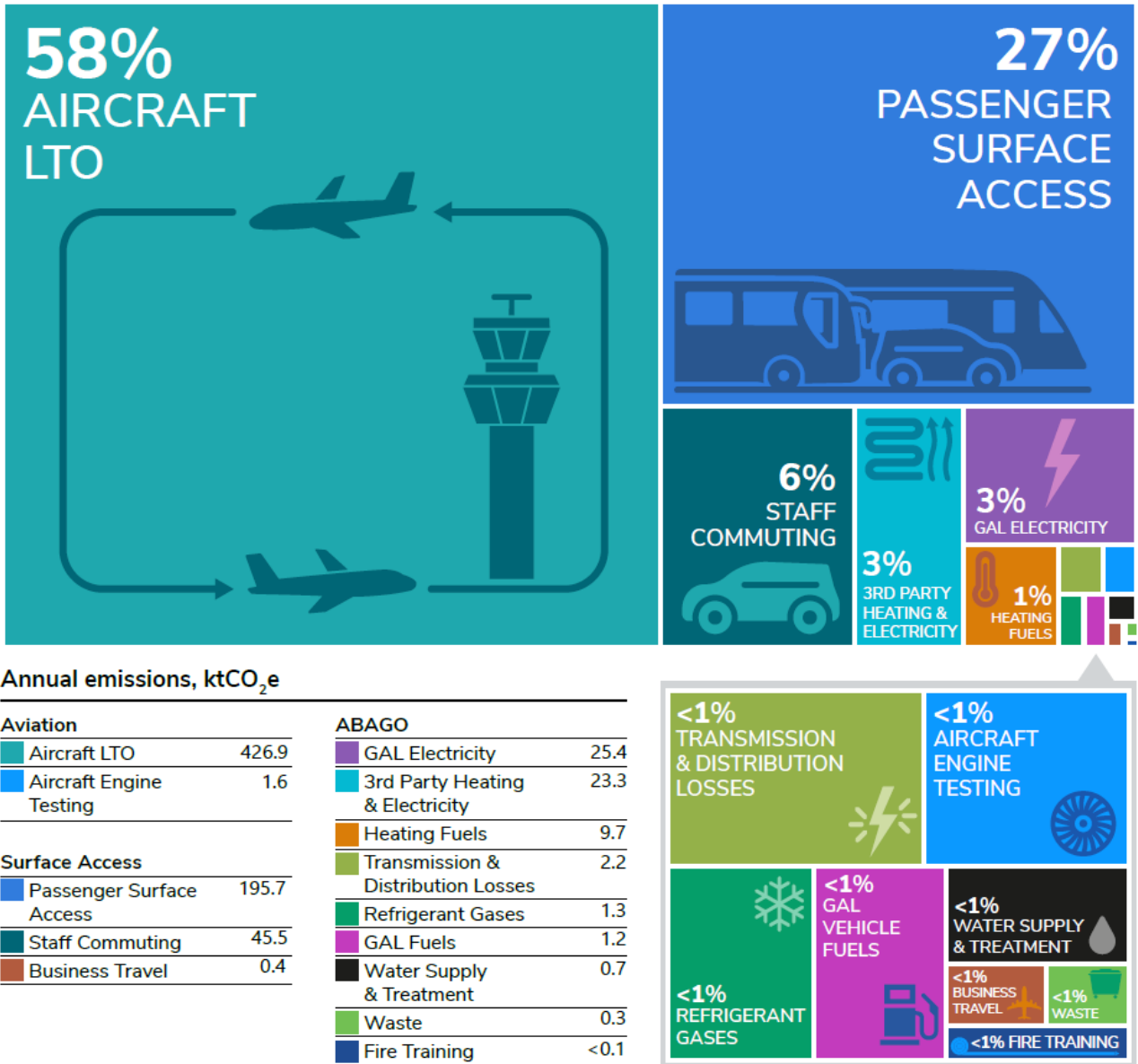
2.1.2 **Figure 2-1** shows the breakdown of GAL's 2019 footprint by level of control. The chart demonstrates that the majority of airport-related emissions lie outside of GAL's direct control or guidance, and primarily consist of aviation and surface access emissions from partner airlines and passenger access (travel to and from the airport) respectively (88%).

Figure 2-1 - 2019 baseline GHG emissions by level of control



2.1.3 **Figure 2-2** shows the breakdown of the 2019 footprint of carbon emissions by emissions source. The figure demonstrates that aircraft LTO² is the most significant emissions source at Gatwick Airport (58%), followed by surface access (27%) and staff commuting (6%) - which are all outside of GAL's direct control. All other emission sources account for 15% of total emissions. The largest sources of carbon under GAL's direct control are from electricity (using a grid-average electricity carbon emissions factor)³ (3%) and building heating (1%).

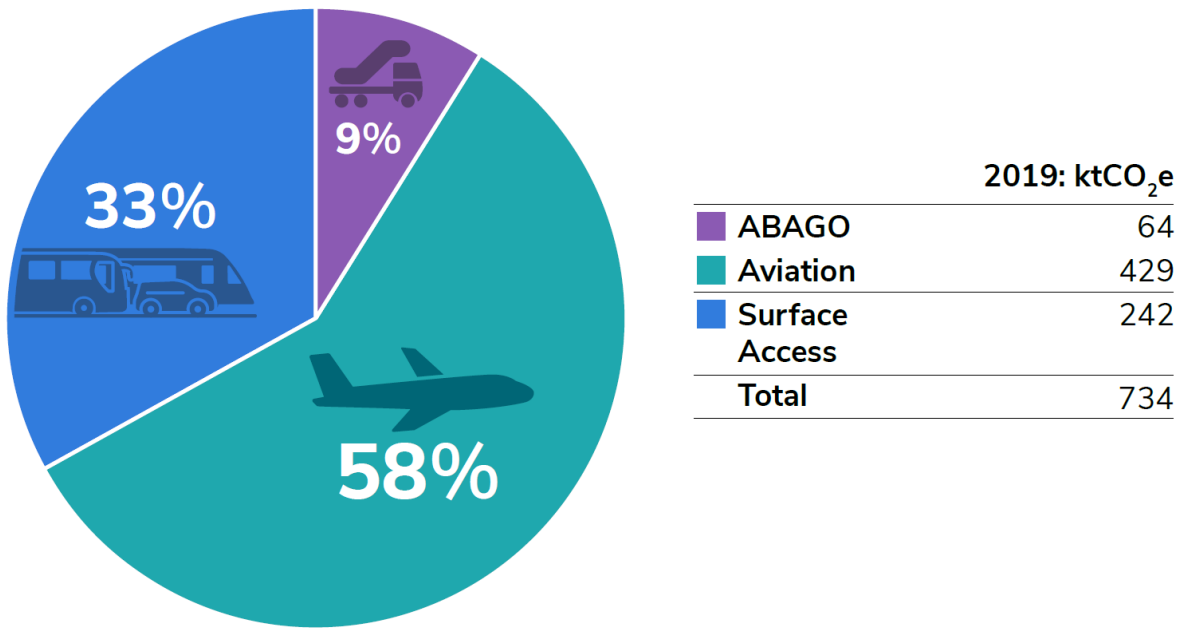
² For emissions from aircraft, the CAP only considers those in the LTO cycle, not the other phases of flight (climb, cruise, descent), as GAL has a significantly greater level of influence over the former (through changes to ground operations, including taxiing, and air traffic management in the region around the airport), than GAL does on the latter (as they are more dependent on airlines purchasing decisions and operational practices). However, it should be noted that some measures targeted at flights (alternative fuels, continuous climb and descent) will also contribute to reducing emissions within the climb, cruise and descent phases.

Figure 2-2 - 2019 Gatwick verified carbon footprint breakdown by emissions source (without CCD)


³ The CAP considers emissions from electricity using a grid-average carbon emissions factor as a conservative approach. This shows the extent to which decarbonisation of electricity consumption is required to remove these emissions in the case that 100% REGO-backed energy purchases are not guaranteed.
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2.1.4 **Figure 2-3** reinforces the observation that aviation and surface access emit the highest proportion of carbon emissions at Gatwick at 58% and 33% respectively. ABAGO accounted for 9% of carbon emissions. In 2019, carbon emissions from construction activities were not recorded and therefore are not shown.

Figure 2-3 - 2019 Gatwick verified carbon footprint breakdown by focus areas



3. The Committed Outcomes

3.1 ABAGO

- 3.1.1 ABAGO emissions are those arising from energy use for buildings, infrastructure and operations to provide heating, cooling, lighting and power needs; fuels for airside and landside vehicles; electricity transmission and distribution emissions; refrigerant losses; fuels for fire training; water consumption and treatment; and operational waste disposal and treatment. GAL has a high level of control over emissions from airport buildings and ground operations as we own and operate the majority of infrastructure and assets.
- 3.1.2 For emissions that occur outside the Gatwick Airport site boundary where GAL can make an impact, we have already taken action, such as electing to purchase 100% Renewable Energy Guarantees of Origin ("REGO") electricity since 2013⁴ and installing 22 charging points for airport ground operation vehicles in 2019 (Ref. 1.6).
- 3.1.3 Working with partners, we have the ability to guide and influence their activities and assets, including our partners' operating ground vehicles and buildings on-site, in order to actively support the reduction of Scope 3 emissions.

ABAGO committed outcomes⁵

Gatwick will achieve Net Zero for GHG emissions under our control (GAL Scope 1 and 2) by 2030.

Gatwick will achieve zero emissions for GAL Scope 1 and 2 GHG emissions by 2040, contributing to the UK Government's Jet Zero ambition "for all airport operations in England to be zero emissions by 2040". We will update this commitment when the policy for "airport operations" in Jet Zero strategy is finalised and published by UK Government.

Gatwick will actively support the reduction of Scope 3 emissions arising from ABAGO.

⁴ With the provision that, as some additional assets have come under Gatwick's ownership and control since 2013, it has not necessarily been possible to ensure 100% REGO for them for the full time they have been owned and operated by GAL.

⁵ 2030 target is inclusive of the given year, such that outcome will be achieved before 31 December 2030.

ABAGO carbon reduction measures

- 3.1.4 Working with specialist advisers, we have developed a range of enabling and direct measures targeting ABAGO emissions that would enable GAL to achieve the ABAGO outcomes in this **CAP**. Those measures are shown in **Table 3-1** and **Table 3-2** respectively. An additional measure (**Table 3-3**) supports the sustainable increase in aircraft movement targets under dual runway operations.
- 3.1.5 We will draw from this list of measures to achieve the ABAGO outcomes, including carrying out feasibility studies and explorations of emerging technologies where the feasibility and carbon saving potential may be more efficient as technologies develop. As noted earlier in this CAP, these measures are presented to demonstrate how we can achieve the committed outcomes, rather than as individual commitments themselves.
- 3.1.6 All new buildings constructed as part of the Project will be designed and constructed for Net Zero emissions during operation; as such, no additional measures, specific to the buildings constructed for the Project, are presented here.

Table 3-1 – Potential enabling measures targeting airport buildings and ground operations

Measure	Description	Implementation Timescale	Measure which it enables (where relevant)
AB1 Heating and Cooling Strategy and Action Plan for Zero Emission heating and cooling by 2030	Produce a strategy and action plan to deliver zero emission heating and cooling by 2030. This strategy will consider the emissions reduction potential, technical feasibility and financial implications of technologies which could contribute to this decarbonisation, both in terms of efficient heating and cooling use and the supply of heating and cooling.	Short term	AB19
AB2 Establishing a "watching brief" on hydrogen use	Establish a "watching brief" to monitor and evaluate potential hydrogen use and demand at the airport with a named Gatwick forum held internally accountable. The watching brief will monitor both the availability and use of hydrogen at the airport (including aircraft auxiliary power units ("APUs"), power units ("Pus"), aircraft, public service vehicles, airport owned vehicles, freight and heating). The watching brief will also monitor the use of hydrogen in other sectors and industries, to identify any emerging opportunities to increase its use at the airport, replacing fossil fuel use.	Short term	AB3, AB11, FL13
AB3 Exploring potential for green hydrogen production	Produce a study exploring the potential for large scale green hydrogen production/liquefaction and transport by rail to Gatwick for future hydrogen flights, ground operations and heating. The report will identify the feasibility and economic and environmental potential of this form of electricity, and hence hydrogen, production and transport to the airport, to inform decisions on whether to invest in this approach.	Medium term	

AB4 Studying feasibility of adopting wastewater treatment to heat and biogas production	Carry out a feasibility study into using heat from wastewater treatment plant and/or biogas from the wastewater treatment plant. This would include both technical feasibility as well as financial and commercial issues, including an assessment of long term low carbon heating options for the airport.	Short term	
AB5 Exploring technologies for micro-generation	Establish a "watching brief" to monitor and evaluate potential micro-generation options with a named Gatwick forum held internally accountable.	Short term	
AB6 Reducing high global warming potential ("GWP") refrigerants	Change procurement policy so that there is a presumption that new equipment purchased uses the lowest possible GWP refrigerant.	Short term	
AB7 Reviewing all ground operation vehicles and equipment for potential zero emission vehicle ("ZEV") adoption	Carry out a review of all vehicles and equipment operating as part of airport operations (including those of airlines and contractors) to understand the challenges, barriers, and opportunities of ZEV adoption.	Short term	AB8
AB8 Facilitating development of ZEVs and zero emission ("ZE") equipment	Offer Gatwick as an innovation hub to support research and development of suitable ZEV/ZE equipment technologies for airport operation needs. This would include partnerships within the aviation industry and with vehicle and technology providers; investment in research and development; and promotion and support of initial trials (following the prerequisite review) leading to ZE solutions being ready by 2030.	Medium term	AB27, AB28
AB9 Reviewing ZEV targets for all vehicles	Review targets for ZEV adoption on the airport: all vehicles in use for airport operations to be zero emissions from 2030 ^{6,7} , provided ZE technologies are available (any vehicles for which zero-emission technology options are not available shall meet ultra-low emission standards by 2030) ^{8,9} . GAL will consider potential emissions savings against life cycle impacts of new vehicles replacing non-life-expired vehicles.	Medium term	AB10, AB27, AB28
AB10 Developing a plan for recharging	Develop a plan for roll-out of recharging infrastructure for electric vehicles operating at the airport, to support a 100% ZE airport fleet. This plan would include evaluating the likely demand; range of vehicle types; frequency/location/speed of charging;	Short term	AB27, AB28

⁶ 31 December 2030

⁷ Measure focuses on entire fleet at Gatwick, especially third party vehicles (Scope 3)

⁸ Specialist equipment and plant may need the option to use near-zero CO₂ fuel (e.g. hydrogen or biomethane) in combustion engines where ZE technologies are unavailable before 2030.

⁹ Ultra-low emission vehicles defined as "ULEVs are currently defined as having less than 75 grams of CO₂e per kilometre (g/km) from the tail pipe. (Typically hybrid vehicles)" in line with Vehicle Certification Agency definition accessible at: <https://www.vehicle-certification-agency.gov.uk/fuel-consumption-co2/fuel-consumption-guide/zero-and-ultra-low-emission-vehicles-ulevs/>

infrastructure for ZEV airside fleet	energy storage and vehicle-to-grid ("V2G") if relevant. This would be supplemented by a plan to deliver grid upgrades and ensure the availability of sustainable electricity for onsite demand.		
AB11 Developing a plan for hydrogen refuelling infrastructure	Develop a plan for the deployment of hydrogen vehicle refuelling infrastructure to support hydrogen vehicles operating at or visiting the airport. This would include evaluating the likely demand for hydrogen vehicle refuelling infrastructure considering: <ul style="list-style-type: none"> ▪ range of vehicle types and energy use; ▪ potential locations and spatial availability (for airside fleets, private vehicles and public transport fleets); ▪ ability to facilitate hydrogen vehicle uptake 	Medium term	AB27, AB28, AB29, FL13
AB12 Studying potential HVO adoption for airside fleet	Carry out a study on the potential for, and expected GHG savings of, Hydrotreated Vegetable Oil ("HVO") used as an interim low-carbon fuel, considering sustainable and responsible sourcing of the fuel and its possible adoption across the current fleet and for hard to decarbonise applications.	Short term	AB27, AB28
AB13 Evaluating potential benefits of fixed hydrant carts	Carry out a study to evaluate the potential emissions benefits and operational implications of adopting fixed hydrant carts to minimise energy use in aircraft refuelling, for stands serving narrow-body aircraft where hydrant carts can be electric and solar powered. The study would be completed to inform operators' ZE vehicle policy and if considered worthwhile, to implement before 2030.	Medium term	AB28, AB29
AB14 Joining decarbonising working groups	Engage with industry bodies, initiatives and relevant research to import innovative practices and demonstrate that Gatwick is playing its part in the industry's carbon reduction journey. This would be done by joining working groups, cross-sector industry partnerships and associations (such as the Zemo Partnership ¹⁰) to work towards the decarbonisation of vehicles and equipment aligned with the requirements of ACA Level 4.	Short term	
AB15 Reviewing grid capacity and emergency power	Produce a Power Strategy for the airport. This will include a regular review of grid capacity and emergency power supply at the site with a view to timely discussions with UKPN about grid capacity. GAL will continuously monitor electricity usage and predict likely future electricity usage.	Short term	AB32
AB16 Influencing stakeholders to improve energy efficiency	Continue to engage and influence third-party stakeholders to further improve energy efficiency on the Gatwick estate.	Short term	

¹⁰ <https://www.zemo.org.uk/>

AB17 Employing best practices in green leases and procurement	Employ best practices in green leases and green procurement when leases and contracts renew, such as agreeing to energy reduction targets and measures with contractors and tenants.	Short term	
AB18 Incorporating innovative approaches to building energy efficiency	Incorporate cutting-edge approaches to energy efficiency into the design of new infrastructure and commit to sustainable building design standards, including an assessment of the performance of potential new buildings and benchmarks for new building projects to achieve.	Short term	AB24, AB25
AB19 Studying the viability of heat recovery	Carry out a study into the viability of installing pipework in areas of new hardstanding to recover heating and cooling (e.g. into inter-seasonal thermal stores in the aquafer below the site). This system would work in conjunction with a centralised heat pump heating and cooling system or fifth generation heat network.	Medium term	AB24
AB20 Producing an Energy Strategy and Action Plan	Produce an Energy Strategy and Action Plan to deliver zero emission energy by 2030. This strategy would consider the emissions reduction potential, technical feasibility and financial implications of renewable energy technologies which could contribute to this decarbonisation.	Short term	AB32
AB21 Initiating an airport operation sustainability working group	Initiate a sustainability working group or partnership with third party operators at Gatwick Airport to support the transition to zero emission vehicles. This would develop a collaborative culture with GAL and its stakeholders aligned with the requirements of ACA Level 4 (Ref 1.1).	Short term	
AB22 Reviewing F-Gas availability	Establish a forum with a responsible lead to review fluorinated gas ("F-Gas") availability with a view to amending practices and procurement procedures where possible to adopt F-Gases with lower Global Warming Potential (GWP). This would include both specification for new units as well as potential for gas replacement in existing units where high GWP gases are used. Pro-active analysis would be incorporated to reduce leakage of refrigerants.	Medium term	
AB23 Offering Gatwick as an innovation hub for direct-air carbon capture	Offer Gatwick as an innovation hub to support research and development of direct-air carbon capture.	Medium term	

Table 3-2 – Direct potential measures targeting airport buildings and ground operations

Measure	Description	Implementation Timescale	Potential Deliverable
AB24 Increasing insulation and air tightness	Increase insulation and air tightness within Gatwick buildings to reduce heat energy usage and improve the energy efficiency of existing buildings to at least an energy performance certificate ("EPC") rating of B.	Medium term	EPC rating of B for existing buildings
AB25 Reducing solar thermal gains	Increase shading of buildings to reduce solar thermal gains, therefore reducing and managing cooling energy demand.	Medium term	Shading installed on 75% of relevant buildings (those affected by solar thermal gains)
AB26 Changing lighting assets	Change current lighting assets to LED (where such lighting can meet applicable standards and regulations), and installing passive infrared sensor (PIR) motion activated lighting in suitable areas (such as where light is needed less than 50% of the time).	Short term (LED) Medium term (PIR)	90% of upgraded lighting assets by target dates
AB27 Purchasing ZEVs for all vehicle replacements	Purchase ZEVs when GAL-owned vehicles are due to be replaced (where suitable vehicles exist).	Medium term	100% of new operation vehicle purchases being ZEV (where suitable vehicles exist)
AB28 Delivering a plan for recharging infrastructure for ZEV airside fleet	Implement a plan for recharging infrastructure phased to be ready ahead of vehicle shift to Zero Emissions.	Medium term	Recharging infrastructure to facilitate all ZEV ground fleet
AB29 Delivering a plan for hydrogen refuelling infrastructure	Implement a plan for hydrogen refuelling infrastructure to support airport operations and transport requirements in time for the deployment of ground operations hydrogen fleet.	Long term	Hydrogen refuelling infrastructure to facilitate all hydrogen ground fleet

AB30 Investing in zero emission airport buses	Ensure that airside coaching buses and landside shuttle/car park buses are zero emission by investing in ZE buses and necessary infrastructure.	Medium term	Infrastructure to facilitate all ZEV buses
AB31 Using zero carbon standby generators	Enforce the use of zero carbon standby power generators (including battery generation, hydrogen and fuel cells) for all uses of standby generation within the Gatwick boundary.	Medium term	100% use of zero carbon standby power generators
AB32 Deploying solar PV	Implement the outcomes of the Energy Strategy and Action Plan, which may include the deployment of solar PV at Gatwick, taking into account how far targets of annual electricity demand can be met from directly connected solar PV generation.	Medium term	Contributing towards 50% renewable energy production / purchase targets
AB33 Purchasing residual carbon removals	Use carbon removals to deal with any residual emissions after the Net Zero target date.	Medium term	Removal of all residual carbon emissions under GAL control (Scope 1 and 2)

Table 3-3 – Additional potential enabling measure under Northern Runway Project targeting airport buildings and ground operations

Measure	Description	Implementation Timescale	Measure which it enables (where relevant)
AB34 Accommodating increase in aircraft movement	Ensure any increase in aircraft movements is provided with suitable stands for servicing which may include as appropriate: (1) access to hydrant for minimal emissions/energy use in refuelling, (2) regularly used stands have direct passenger access to minimise emissions/energy use in coaching, (3) Aircraft taxiing movement and waiting is minimised	Long term	FL02 & FL14 (adoption of taxiing)

3.2 Aviation

- 3.2.1 Our existing aim in the second Decade of Change is to play our part in supporting the UK aviation industry in transitioning to Net Zero carbon.
- 3.2.2 In its Jet Zero Strategy, the Government, working with airlines, takes responsibility for achieving a trajectory of GHG emissions from aviation consistent with its Net Zero commitments.
- 3.2.3 Aviation emissions arise from aircraft at the airport, including during LTO and CCD phases. Whilst we have a lower level of influence on airlines' decisions on aircraft procurement and flight operations and, hence, their emissions (than we do, for example, on emissions in the LTO cycle), we will continue working with airlines and fuel providers to implement the Sustainable Aviation decarbonisation roadmap and interim goals (Ref 1.20).

Aviation committed outcome

- 3.2.4 Whilst the second Decade of Change (Ref 1.2) goal is clear, far reaching and compliant with policy, for the purposes of this CAP, we wish to build on this, as set out in the outcome below:

Gatwick will provide the appropriate infrastructure for sustainable aviation and play its part in advancing and implementing the UK Government's Jet Zero strategy

Aviation carbon reduction measures

- 3.2.5 We have developed a non-exhaustive range of enabling and direct measures which reflect current best practice and technology. These are shown in **Table 3-4** and
- 3.2.6 **Table 3-5.**
- 3.2.7 We will draw from this list of measures to achieve the aviation outcome, including carrying out feasibility studies and explorations of emerging technologies where the feasibility and carbon saving potential will be better understood as technologies develop.
- 3.2.8 The UK Government's Jet Zero Strategy is likely to mandate measures for airlines and airport operators to implement. GAL will ensure it complies with the requirements placed on it as an airport; however, many potential measures are likely to be the responsibility of the airlines to implement and, therefore, outside of our direct control. We will work with the airlines to support them when implementing relevant measures.
- 3.2.9 Our role is to make the appropriate business decisions to ensure the airport remains fit for purpose in accommodating the decarbonisation of the aviation sector, i.e. to ensure that Gatwick is Jet Zero 'ready'.

3.2.10 We will provide the infrastructure, systems and services in time to accommodate the changes that will develop in aircraft technology necessary to achieve the airlines' trajectory to Net Zero. Whilst there is inevitably some uncertainty about the precise developments likely to emerge in aircraft design and fuelling, it will be a priority for GAL to ensure that the airport is always ready and equipped to host its airline community.

3.2.11 The tables below list the measures that may be necessary to meet our commitment, in single and dual runway operations.

Table 3-4 – Potential enabling measures targeting aviation emissions

Measure	Description	Implementation Timescale	Measure which it enables (where relevant)
FL01 Researching taxiing	Carry out a survey of airlines to update knowledge of use of single-engine (or reduced-engine) taxiing and follow up to understand reasons why they may not use single-engine or reduced-engine taxiing. GAL would identify and evaluate potential changes to taxi routes to encourage greater use of single or reduced engine taxiing.	Short term	FL02
FL02 Trialling taxiing	Negotiate with key airlines operating narrow-body aircraft at Gatwick to participate in a trial use of Taxibot for taxiing without the use of main engines. During the trial, GAL would identify operating approaches that avoid impacting runway flow. Following the trial, GAL would organise a workshop to understand the benefits of Taxibot and identify potential acquisition of multiple units.	Medium term	
FL03 Reviewing the Carbon Emissions Charge	Carry out a review of the "Charge Multiplier" in Gatwick's "Carbon Emissions Charge" at regular intervals (e.g. every five years) with the potential to link to carbon prices or values (with consideration given to avoiding double charging).	Long term Review every five years from 2025	FL04
FL04 Reducing landing charges for SAF fuelled aircraft	Offer reduced landing charges; reduced gate use charges and remove the carbon charge to airlines that commit to use levels of Sustainable Aviation Fuels ("SAF") significantly above the UK proposed SAF mandate (exact levels depending on the outcomes of the UK consultation), subject to ASTM International certification ¹¹ of the higher blend rates and approval from the engine/aircraft manufacturer.	Long term Review every five years from 2025	
FL05 Reviewing PCA	Carry out a review of the potential to implement Preconditioned Air Units ("PCA") on gates and stands, with the aim of identifying those gates/stands at which PCA could be installed.	Medium term	FL09, FL10

¹¹ ASTM International (originally the American Society for Testing and Materials) have responsibility for defining the certification requirements, and certifying, aviation fuels including sustainable fuels.
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implementation potential			
FL06 Reviewing Airport Collaborative Decision Making	Carry out a review of current implementation of Airport Collaborative Decision Making ("A-CDM") at Gatwick and discuss increased use with key airlines and departure/destination airports with the aim to implement its use on all feasible routes.	Medium term	
FL07 Reviewing other arrival management systems	Carry out a review of the current use of other arrival management systems such as Cross Border Arrivals Management ("XMAN") and hold discussions with key airlines and NATS Holdings Ltd. with a view to implement on all arriving flights of over 500 km flight distance.	Medium term	
FL08 Establishing an aviation watching brief	Establish a "sustainable aviation watching brief" to monitor and evaluate emerging technologies and industry best practice, for example for sustainable flight operations, and report to a named Gatwick forum.	Short term	

Table 3-5 – Potential direct measures targeting aviation emissions

Measure	Description	Implementation Timescale	Potential Deliverable
FL09 Limiting APU usage	Limit aircraft APUs to run no more than five minutes after arrival and 10 minutes before departure at gates and stands where Fixed Electric Ground Power ("FEGP") and PCA are available. Monitoring APU use at gates and stands to understand challenges faced by airlines in reducing use and investigate means of overcoming those challenges.	Medium term	Enforcement of updated APU limits
FL10 Installation of PCA at suitable gates/stands	Installation of PCA on gates and stands identified as being suitable following the completion of review	Long term	Installation at 75% of all suitable gates/stands.
FL11 Implementing Performance Based Navigation	Implement Performance Based Navigation (PBN) for departure and arrival routes below 7,000 ft altitude, as part of Airspace Modernisation within the Civil Aviation Authority (CAA) strategy (Ref 1.17)	Long term	Implementation of PBN

FL12 Supporting electric aircraft	Work with key stakeholders such as aircraft manufacturers, airlines and others, such as Project Zero Emission Flight Infrastructure (ZEFI), to provide appropriate infrastructure to enable electric aircraft based at the airport, as and when airlines are ready to introduce them for services from Gatwick.	Long term	Agreement of a recharging infrastructure target
FL13 Supporting hydrogen-fuelled aircraft	Work with key stakeholders such as aircraft manufacturers, gas companies and airlines, and with others such as Project ZEFI to provide appropriate infrastructure to enable hydrogen-fuelled aircraft at the airport, as and when airlines are ready to introduce them for services from Gatwick. The measure would be reviewed as the technology evolves through the information collated in the energy strategy studies and the hydrogen "watching brief".	Long term	Agreement of a hydrogen refuelling infrastructure target

Table 3-6 – Additional potential enabling measures under Northern Runway Project targeting aviation emissions

Measure	Description	Implementation Timescale	Deliverable
FL14 Application of taxiing	Carry out a survey of departures 12 months before and 12 months after the Northern Runway Project opening to identify the lengths of ground holds and their causes. GAL would implement improvements in departure procedures (e.g. release time for push-back) to allow aircraft to arrive at the relevant runway a maximum of five minutes before take-off.	Long term	Two surveys in 2028 and 2030 on ground holds
FL15 Prioritising low emission aircraft	Develop a proposal for green slots (which give consideration to carbon emissions reduction) as part of development plans for the Northern Runway Project.	Long term	Proposal for dedicated green slots for low emission aircraft

3.3 Construction

3.3.1 We have a high degree of control on direct decarbonisation through decisions made on design, material selection and contractor management. In 2021, 99% of GAL construction contractors' waste was diverted away from landfill (Ref 1.25). In recognition of this level of control, we are committing to commensurately more challenging outcomes in respect of the construction carbon emissions arising from the Project. These are set out below:

Construction committed outcomes¹²

Gatwick will develop and implement measures to prevent, reduce and remediate GHG emissions arising from the construction of the Northern Runway Project to ensure that these do not exceed 1.15 MtCO₂e

Gatwick, as the asset owner, and the Principal Contractors used for construction of the Project will be PAS 2080: 2023 *Carbon management in buildings and infrastructure* (as amended) certified, updated annually.

3.3.2 The limit on construction carbon emissions set out in our committed outcome represents a significant reduction from the level that would arise from the use of traditional construction materials and practices.

3.3.3 To deliver the outcomes set out above, we will adopt the principles and processes set out in PAS 2080 (Ref 1.18) by:

- implementing a carbon management process and requiring designers, contractors and suppliers to implement an organisational carbon management process;
- taking early action to reduce carbon emissions and investigating alternative solutions for carbon reductions;
- managing whole life carbon across the Project's lifetime and requiring designers, contractors and suppliers to prioritise management of carbon emissions under their control and over which they have a direct influence;
- incentivise and reward designers, contractors and suppliers who enable Gatwick to meet its carbon commitments; and
- influencing whole life carbon across the Project's lifetime by requiring designers, contractors and suppliers to prioritise management of carbon emissions under their control – in this instance construction related emissions – which is a discrete element within the whole-life carbon emissions of the proposed scheme. However, construction decisions may also impact emissions in subsequent phases (e.g. ABAGO) of the scheme.

¹² "Principal Contractors" as defined by CDM Regulations.
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3.3.4 The emissions considered arising from the construction of the Northern Runway Project include the construction material used; construction waste (excess cut and demolition waste); construction plant; material and waste transport; construction worker transport and water use.

Construction carbon reduction measures

3.3.5 In preparation for the construction carbon management process, we have developed a range of enabling and direct measures targeting construction emissions shown in **Table 3-7** and **Table 3-8** respectively.

3.3.6 We will draw from this list of measures to achieve the construction outcomes, including carrying out feasibility studies, sustainable design practices and explorations of emerging technologies (such as ultra-low carbon concrete) where the feasibility and carbon saving potential will be better understood as technologies develop.

Table 3-7 – Enabling potential measures under targeting construction emissions

Measure	Description	Implementation Timescale	Measure which it enables (where relevant)
CN01 Capturing best practice and innovation in low carbon	Launch a mechanism to continuously capture and share best practice or innovative carbon reduction measures. This could include, for example, an internal forum or notice board, available to all project managers and staff on key environmental impact options.	Short term	
CN02 Implementing "Carbon Reduction Moment" at meetings	Carry out a "Carbon Reduction Moment" at the beginning of all meetings with all construction teams operating at the airport, focusing on examples of relevant carbon reduction initiatives in the construction industry.	Short term	
CN03 Assigning responsibilities of carbon reduction to individuals	Appoint a carbon reduction 'champion' within each link in the design - contractor - subcontractor chain to ensure that carbon reduction opportunities are given full hearing, communicated to all relevant personnel, adhered to throughout project processes, and not removed/reversed without due consideration.	Short term	
CN04 Researching circular economy strategies	Carry out a study of the application of circular economy strategies (e.g. 'product as a service' opportunities across all infrastructure including for staff and public buildings). Following the review, GAL would then develop a plan to phase in possible options as relevant contracts are renewed or re-tendered.	Short term	
CN05	Develop a library of materials and technologies of interest, with planned regular review of their suitability to develop into future plans.	Short term	

Developing a material library			
CN06 Developing a Sustainable Procurement Policy	Carry out a review of overall procurement policy to develop into a "Sustainable Procurement Policy" to be deployed on all new projects.	Short term	
CN07 Developing a "Carbon Reduction in Construction at Gatwick" initiative	Develop and launch a "Carbon Reduction in Construction at Gatwick" initiative to drive a change in construction culture.	Short term	CN02, CN03, CN08, CN09, CN10, CN21,
CN08 Developing an overall "Carbon Reduction Construction Standard"	Develop an overall "Carbon Reduction Construction Standard" to be adhered to by all new projects following an audit of existing standards.	Short term	
CN09 Leading quarterly "Construction Carbon Reduction Focus Groups"	Lead quarterly "Construction Carbon Reduction Focus Groups" with key stakeholders across Gatwick and the wider supply chain, following the launch of the wider initiative (described in CN07).	Short term	
CN10 Developing training programmes to staff	Develop and deliver training programme to all staff involved in the procurement, design or delivery aspect of construction works at Gatwick. Training content would cover sustainable construction and retrofit topics.	Short term	
CN11 Developing a Client Carbon Brief	Develop a Client Carbon Brief, to clearly define the rules, processes and calculation methodologies for all carbon reporting by GAL, its suppliers and partners.	Short term	
CN12 Reviewing current sustainability standards	Carry out a full gap analysis of sustainability standards across all Gatwick construction. This should include identifying where current standards inhibit or prevent low-carbon solutions, as well as identifying opportunities where standards could be exploited to encourage low-carbon options.	Short term	

CN13 Delivering a "Design for low carbon and resource efficiency" workshop	Deliver a "Design for low carbon and resource efficiency" workshop with the supply chain at appropriate stages in the design process, held at concept and detailed design stages at a minimum.	Short term	
CN14 Engaging with innovation initiatives	Engage with industry bodies, initiatives and relevant research to import innovate practices and demonstrate that Gatwick is playing its part in the construction industry's carbon reduction journey.	Short term	
CN15 Studying sustainability accreditation schemes	Carry out a cost-benefit study of existing sustainability accreditations and third-party certifications in driving carbon reduction in construction at Gatwick, including identifying the appropriate level of accreditation for each respective scheme. This study would include, but is not limited to, the following schemes: <ul style="list-style-type: none"> ▪ BREEAM - Building Research Establishment Environmental Assessment Method Standards. ▪ BREEAM Infrastructure (formerly CEEQUAL) ▪ LEED - Leadership in Energy and Environmental Design (Green Building Certification) ▪ WELL Building Standard - roadmap for creating and certifying spaces that advance human health and well-being. 	Short term	
CN16 Minimising unnecessary transport and packaging	Ensure that no materials are to be brought onto site unless it is demonstrated that they are required (e.g. for product protection). GAL would drive contractors to minimise packaging where possible where they are required (e.g. through "takeback" or reduction options).	Short term	
CN17 Developing a Construction Traffic Management Plan	Develop and implement Construction Traffic Management Plan to minimise any negative environmental and community impacts, with measures including minimising construction vehicle idling.	Short term	
CN18 Ensuring Principal Contractors develop	Ensure that Principal Contractors would develop and implement a "Carbon Efficiency Plan" to manage carbon emissions and promote good practice. This would consider low-carbon construction techniques for both on-site and off-site practices, including the following:	Short term	

a "Carbon Efficiency Plan"	<ul style="list-style-type: none"> ▪ Monitoring of fuel use and compressed air leaks; ▪ Providing training for driver and plant use; ▪ Avoiding the oversizing of generators for plant and temporary buildings; ▪ Nominating individuals with responsibility for site energy management; ▪ Connecting to grid electricity early in project lifecycle to reduce the use of mobile diesel energy; ▪ Providing low energy site cabins during construction. 		
CN19 Enforcing Site Waste Management Plans	Enforce the use of Site Waste Management Plans (SWMPs) by establishing a template and stipulate for their regular monitoring and review through project lifecycle based on an industry-wide standard approach.	Short term	
CN20 Introducing a phasing plan to all construction projects	Mandate for all projects to be subject to a detailed phasing plan, with the aim to minimise overlap of incompatible trades working in the same area and to reduce the potential for waste to be generated from replacing damaged products.	Short term	
CN21 Developing a "Carbon Reduction in Construction Charter"	Produce a "Carbon Reduction in Construction Charter" for all members of construction teams to sign following launch of the "Carbon Reduction in Construction Initiative at Gatwick".	Short term	
CN22 Enforcing LEZ standards for vehicles and NRMMs	Ensure that all contractor on-road vehicles and Non-Road Mobile Machinery ("NRMM") achieve zero emissions by 2040.	Long term	
CN23 Developing wastewater reuse strategies	Develop strategies to treat all wastewater reuse, such as 100% of water arising from construction activities for the airport; ensure zero liquid discharge and sustain the above practices for future construction projects.	Medium term	

Table 3-8 – Potential direct measures targeting construction emissions

Measure	Description	Implementation Timescale	Potential Deliverable
CN24 Developing a Construction	Develop and implement a Construction Workforce Travel Plan that supports and encourages sustainable travel for both regular and ad-hoc project construction staff, such as public transport, cycling, walking and car sharing.	Short term	Construction Workforce Travel Plan

Workforce Travel Plan			
CN25 Using low or zero carbon materials	Use low carbon or sustainable options for all material choices, where new materials are to be used.	Medium term	Change in Gatwick construction policy
CN26 Designing lower embodied carbon projects	Deliver design specifications of materials with lower embodied GHG emissions to contractors where practicable and within design parameters. This would specify: use of materials with a higher recycled content where re-use or repurposing is not a viable option; locally sourced near to where they will be used; where practicable and where reuse of existing materials has first been explored as an option.	Short term	Change in Gatwick construction policy
CN27 Using low or zero carbon processes	Stipulate that contractors should propose low-carbon or sustainable construction processes, including innovative ideas such as replacing diesel excavators with directional drills.	Short term	Change in Gatwick construction policy
CN28 Maximising the reuse of assets and materials	Work with GAL's supply chain to identify an appropriate mechanism to maximise the reuse of assets, products, components and materials (such as asphalt and concrete) throughout the project, with preference given to on-site reuse over off-site. GAL would give due consideration to best practice in industry and efforts to address reuse issues more widely.	Short term	Change in Gatwick construction policy
CN29 Enforcing low or zero carbon construction equipment	Enforce the use of low or zero carbon construction generators and construction plant equipment (e.g. lighting, back-up and off grid power units), unless demonstrated as not possible.	Medium term	Gradual phasing out of diesel fuel for construction towards 100% hydrogen and electric in 2030
CN30 Encouraging low or zero carbon construction vehicles	Encourage the use of low or zero carbon (e.g. hydrogen and electric) vehicles for all construction transportation, unless demonstrated that it is not possible.	Medium term	Gradual phasing out of diesel fuel for construction
CN31 Developing a logistics system to minimise material storage time	Incorporate a logistics system which allows "just-in-time" deliveries of materials and equipment ¹³ on all Northern Runway Project construction projects where possible and where access constraints do not diminish the overall advantages.	Medium term	Delivery of a logistics system ready for use during Northern Runway Project construction

¹³ Material deliveries include deliveries of precast concrete units, reinforcement steel, drainage materials and abnormal loads (including construction equipment).

4. Additional Information

4.1 Additional Information

4.1.1 We are committed to the outcomes set out in each focus area of the CAP. To achieve Net Zero by 2030 for ABAGO (Scope 1 and 2), GAL will reduce its emissions as far as possible and adopt carbon removal strategies equivalent to the residual emissions under our control (Section 4.2). We will ensure that we are on course to achieve our targets through regular review and monitoring of progress.

4.2 Carbon Removals

4.2.1 In order to achieve Net Zero (GAL Scope 1 and 2) carbon offsets would not be sufficient (they would not meet the definition of Net Zero). We will commit to remove any residual emission from sources over which GAL has control, before committing to 'zero emissions' for GAL direct Scope 1 and 2 emissions from 2040 onwards (i.e. no carbon removals required).

4.2.2 A carbon removal is a reduction or removal of emissions of carbon dioxide or other greenhouse gases made to compensate for emissions created elsewhere. Removal activities include measures that neutralise or remove carbon emissions from the atmosphere. At present, carbon removal from the atmosphere is a relatively immature technology, but one that is expected to develop significantly in the next few years. The European Commission, for example, has proposed implementing a certification system for carbon removals (Ref 1.21).

4.3 Non-Carbon Effects

4.3.1 The main focus of the CAP is on GHG emissions associated with the operations of the airport, and the actions that can be taken to reduce those emissions. The presentation of the emissions is mainly in the form of "CO₂ equivalent" ("CO₂e"), which includes other greenhouse gases (such as methane and nitrous oxide), factored by their respective global warming potentials.

4.3.2 However, emissions sources including aviation and road transport produce a range of other pollutants which affect local air quality and, in some cases, can impact climate change. Further, aircraft produce water vapour emissions from the combustion of the fuel, which can lead to the formation of condensation trails, or "contrails" (depending on the aircraft altitude and weather conditions). These contrails can lead to the formation of cirrus clouds, which are also known to impact on global warming.

4.3.3 Currently there is still scientific uncertainty on the contributions of non-carbon effects and any resultant government policy implications. We will monitor the development of government policy in this regard and, if/when such policy is published, reflect such policy in mitigating non-carbon effects accordingly in future updates to the CAP.

4.4 Monitoring, Governance and Review

Monitoring and reporting

4.4.1 We will prepare an annual monitoring report, setting out performance and progress against its commitments in this CAP (the "Monitoring Report").

4.4.2 The Monitoring Report will:

- explain the methodology and data used to monitor and assess performance against the commitments;
- summarise the measures which we are implementing to ensure compliance with the commitments;
- report on progress against/compliance with the commitments (depending on the stage of the Project's development); and
- identify any new measures which we are intending to implement over the course of the following year to ensure continued progress against/compliance with the commitments.

4.4.3 GAL will publish the Monitoring Report no later than the 1st of May each year on its website and will submit a copy of the Monitoring Report to Crawley Borough Council ("CBC") and the Government for information, to inform government in implementing its Net Zero commitments in aviation.

4.4.4 The Monitoring Report will include a statement setting out an independent third party specialist's accreditation of its contents, where those contents are objectively quantifiable, including verification of the airport's carbon footprint in line with the requirements of ISO 14064-3: 2019 (Specification with guidance for the verification and validation of greenhouse gas statements) (Ref 1.22) and the GHG Protocol Corporate Standard (Ref 1.15).

Governance

4.4.5 In circumstances where the Monitoring Report confirms our progress against and compliance with the commitments in the CAP, then no additional action is required in response from GAL.

4.4.6 Alternatively, in the event that the Monitoring Report demonstrates that we have failed to meet our commitments, or we consider (acting reasonably) that insufficient progress is being made towards complying with the commitments, then we will separately prepare an action plan to detail the additional intervention(s) we propose to implement to ensure future compliance with such commitments, how and why such intervention is considered to be effective and the timescale for its proposed implementation and effect (the "Action Plan").

4.4.7 We must prepare and publish the Action Plan within 3 months of the publication of the corresponding Monitoring Report, and submit a copy of the same to the Government and CBC for information.

4.4.8 The implementation of, and compliance with, this CAP is proposed to be secured as a requirement to the DCO. A failure to comply with the process defined in the CAP would represent a breach of the DCO requirement and subject to enforcement action in the normal way.

4.4.9 A failure to comply with the outcomes committed in the CAP would represent an impediment to the Government's implementation of its Jet Zero Strategy and other carbon reduction commitments. These would be matters for enforcement by Government through the governance arrangements under the Jet Zero Strategy.

Review

- 4.4.10 The commitments set out in this CAP are the 'minimum' absolute outcomes that we will deliver. They are made to ensure reliance can be placed on the outcomes assessed in the **Environmental Statement** (Doc Ref. 5.1) and to demonstrate GAL's decarbonisation commitments in line with Government policy.
- 4.4.11 However, it is also acknowledged that Government aviation and climate change policy will continue to evolve over future years. To ensure continued consistency with such Government policy, we will review the CAP at least every 5 years to consider whether any such change in policy is so material as to require an update to the CAP and its specific commitments.
- 4.4.12 The initial review will include, in particular, consideration of any finalised Government policy on the meaning of 'airport operations', which at the time of writing is currently subject to consultation. Where necessary, GAL's definition of 'ABAGO' will be updated to reflect such finalised policy.
- 4.4.13 We will publish a report summarising the findings of the review of the CAP and, where applicable, the revised CAP on its website, and will submit a copy of the same to the Government and to CBC.
- 4.4.14 In circumstances where the Government considered GAL had not adequately addressed any updates to Government policy in any review of the CAP, it is anticipated that they would notify GAL of the same and direct GAL to reflect and revise the CAP as necessary.

5. Summary of Outcomes

5.1 Commitments

5.1.1 A summary of GAL's commitments is set out in **Table 5-1**.

Table 5-1 – Register of GAL's carbon reduction commitments

Focus Area	Definition
Airport Buildings and Ground Operations	Gatwick will achieve Net Zero for GHG emissions under our control (GAL Scope 1 and 2) by 2030.
	Gatwick will achieve zero emissions for GAL Scope 1 and 2 GHG emissions by 2040, contributing to the UK Government's Jet Zero ambition "for all airport operations in England to be zero emissions by 2040". We will update this commitment when the policy for "airport operations" in Jet Zero Strategy (Ref 1.3) is finalised and published by UK Government.
	Gatwick will actively support the reduction of Scope 3 emissions arising from ABAGO.
Aviation	Gatwick will provide the appropriate infrastructure for sustainable aviation and play its part in advancing and implementing the UK Government's Jet Zero Strategy (Ref 1.3).
Construction	Gatwick will develop and implement measures to prevent, reduce and remediate GHG emissions arising from the construction of the Northern Runway Project to ensure that these do not exceed 1.15 MtCO ₂ e.
	Gatwick, as the asset owner, and the Principal Contractors used for construction of the Project will be <i>PAS 2080: 2023 Carbon management in infrastructure and buildings</i> (as amended) (Ref 1.18) certified updated annually.

5.2 Toolkit of measures

5.2.1 A summary of the toolkit of measures that Gatwick can adopt carbon reduction measures from is set out in **Table 5-2**.

Table 5-2 – Toolkit of carbon reduction measures

ID	Measure
Airport Buildings and Ground Operations (ABAGO)	
AB01	Heating and Cooling Strategy and Action Plan for Zero Emission heating and cooling by 2030
AB02	Establishing a "watching brief" on hydrogen use
AB03	Exploring potential for green hydrogen production
AB04	Studying feasibility of adopting wastewater treatment to heat and biogas production
AB05	Exploring technologies for micro-generation
AB06	Reducing high global warming potential (GWP) refrigerants
AB07	Reviewing all ground operation vehicles and equipment for potential zero emission vehicle (ZEV) adoption
AB08	Facilitating development of ZEVs and zero emission (ZE) equipment
AB09	Reviewing ZEV targets for all vehicles
AB10	Developing a plan for recharging infrastructure for ZEV airside fleet
AB11	Developing a plan for hydrogen refuelling infrastructure
AB12	Studying potential HVO adoption for airside fleet
AB13	Evaluating potential benefits of fixed hydrant carts
AB14	Joining decarbonising working groups
AB15	Reviewing grid capacity and emergency power
AB16	Influencing stakeholders to improve energy efficiency
AB17	Employing best practices in green leases and procurement
AB18	Incorporating innovative approaches to building energy efficiency
AB19	Studying the viability of heat recovery
AB20	Producing an Energy Strategy and Action Plan
AB21	Initiating an airport operation sustainability working group
AB22	Reviewing F-Gas availability
AB23	Offering Gatwick as an innovation hub for direct-air carbon capture
AB24	Increasing insulation and air tightness
AB25	Reducing solar thermal gains
AB26	Changing lighting assets
AB27	Purchasing ZEVs for all vehicle replacements
AB28	Delivering a plan for recharging infrastructure for ZEV airside fleet
AB29	Delivering a plan for hydrogen refuelling infrastructure
AB30	Investing in zero emission airport buses
AB31	Using zero carbon standby generators
AB32	Deploying solar PV
AB33	Purchasing residual carbon removals
AB34	Accommodating increase in aircraft movement
Aviation	
FL01	Researching taxiing
FL02	Trialling taxiing
FL03	Reviewing the Carbon Emissions Charge
FL04	Reducing landing charges for SAF fuelled aircraft
FL05	Reviewing PCA implementation potential

ID	Measure
FL06	Reviewing Airport Collaborative Decision Making
FL07	Reviewing other arrival management systems
FL08	Establishing a sustainable aviation watching brief
FL09	Limiting APU usage
FL10	Installing PCA at suitable gates/stands
FL11	Implementing Performance Based Navigation
FL12	Supporting electric aircraft
FL13	Supporting hydrogen-fuelled aircraft
FL14	Application of taxiing
FL15	Prioritising low emission aircraft
Construction	
CN01	Capturing best practice and innovation in low carbon
CN02	Implementing "Carbon Reduction Moment" at meetings
CN03	Assigning responsibilities of carbon reduction to individuals
CN04	Researching circular economy strategies
CN05	Developing a material library
CN06	Developing a Sustainable Procurement Policy
CN07	Developing a "Carbon Reduction in Construction at Gatwick" initiative
CN08	Developing an overall "Carbon Reduction Construction Standard"
CN09	Leading quarterly "Construction Carbon Reduction Focus Groups"
CN10	Developing training programmes to staff
CN11	Developing a Client Carbon Brief
CN12	Reviewing current sustainability standards
CN13	Delivering a "Design for low carbon and resource efficiency" workshop
CN14	Engaging with innovation initiatives
CN15	Studying sustainability accreditation schemes
CN16	Minimising unnecessary transport and packaging
CN17	Developing a Construction Traffic Management Plan
CN18	Ensuring Principal Contractors develop a "Carbon Efficiency Plan"
CN19	Enforcing Site Waste Management Plans
CN20	Introducing a phasing plan to all construction projects
CN21	Developing a "Carbon Reduction in Construction Charter"
CN22	Enforcing LEZ standards for vehicles and NRMMs
CN23	Developing wastewater reuse strategies
CN24	Developing a Construction Workforce Travel Plan
CN25	Using low or zero carbon materials
CN26	Designing lower embodied carbon projects
CN27	Using low or zero carbon processes
CN28	Maximising the reuse of assets and materials
CN29	Enforcing low or zero carbon construction equipment
CN30	Encouraging low or zero carbon construction vehicles
CN31	Developing a logistics system to minimise material storage time

6. Glossary

Term	Definition
Key Terms	
Carbon Neutral	Offset of all residual carbon emissions under Scope 1, Scope 2 and staff business travel.
Climate Change	Changes in general weather conditions over 30 years (seasonal averages and extremes).
Jet Zero	The UK government's strategy to achieve net zero aviation emissions by 2050.
Net Zero	Reduce absolute emissions to the greatest extent possible and address any remaining emissions through investment in carbon removal and storage.
Residual Emissions	Carbon emissions which are still being emitted for sources following mitigation efforts.
Scope 1	Direct GHG emissions that occur from sources that are owned and/or controlled by the airport.
Scope 2	Indirect GHG emissions from the generation of purchased electricity, steam, heat or cooling consumed by the airport. Scope 2 emissions physically occur at the facility where purchased electricity is generated.
Scope 3	All other indirect emissions, which are a consequence of the activities of the airport but occur from sources not owned and/or controlled by the company (e.g., aircraft movements, vehicles and equipment operated by third parties, off-site waste management, etc.).
Ultra-Low Emission (Vehicle)	ULEVs are currently defined as having less than 75 grams of CO ₂ e per kilometer (g/km) from the tail pipe (typically hybrid vehicles) (Ref 1.19).
(Absolute) Zero Emission	No GHG emissions are attributable to an actor's operations. Under this definition, no offsets or balancing of residual emissions with removals are used.
Abbreviations	
ABAGO	Airport Building and Ground Operations
ACA	Airport Carbon Accreditation
A-CDM	Airport Collaborative Decision Making
APU	Auxiliary Power Unit
ASAS	Airport Surface Access Strategy
ATM	Air Traffic Movement
BaU	Business as Usual
BREEAM	Building Research Establishment Environmental Assessment Method Standard
CAA	Civil Aviation Authority
CAP	Carbon Action Plan
CCC	Climate Change Committee
CCD	Climb-Cruise-Descent
CDA	Continuous Descent Arrivals
CEEQUAL	Civil Engineering Environmental Quality Assessment & Award Scheme
CO ₂	Carbon Dioxide

Term	Definition
DCO	Development Consent Order
DfT	Department for Transport
DMZ	Delivery Management Zone
DoC	Decade of Change
FEGP	Fixed Electric Ground Power
F-Gas	Fluorinated Gas
GAL	Gatwick Airport Limited
GHG	Greenhouse Gas
GWP	Global Warming Potential
HGV	Heavy Goods Vehicle
HVO	Hydrotreated vegetable oil
IPCC	Intergovernmental Panel on Climate Change
KPI	Key Performance Indicators
LCA	Life Cycle Analysis
LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design
LEZ	Low Emission Zone
LTO	Landing & Take-Off
NRMM	Non-Road Mobile Machinery
NRP	Northern Runway Project
PAX	Passengers
PBN	Performance Based Navigation
PCA	Pre-Conditioned Air
PIR	Passive Infrared Sensor
PEIR	Preliminary Environmental Information Report
PPA	Power Purchase Agreement
PU	Power Units
PV	Photovoltaic
REGO	Renewable Energy Guarantees of Origin
SAF	Sustainable Aviation Fuel
SWMP	Site Waste Management Plans
tCO ₂ e	Tonnes of carbon dioxide equivalent
UK ETS	United Kingdom Emissions Trading Scheme
UKPN	UK Power Networks
V2G	Vehicle-to-grid
WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute
XMAN	Cross Border Arrivals Management
ZEFI	Zero Emission Flight Infrastructure
ZEV	Zero Emission Vehicle

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